In the Claims

1. (Previously Presented) A steel for structural parts of automobiles having excellent formability, fatigue endurance after quenching, low temperature toughness, and resistance for hydrogen embrittlement, wherein the steel has a composition containing, by mass, the following:

C: 0.18 to 0.29%

Si: 0.06 to 0.45%

Mn: 0.91 to 1.85%

P: 0.019% or less

S: 0.0029% or less

Sol. Al: 0.015 to 0.075%

N: 0.0049% or less

O: 0.0049% or less

B: 0.0001 to 0.0029%

Nb: 0.001 to 0.019%

Ti: 0.001 to 0.029%

Cr: 0.001 to 0.195%

Mo: 0.001 to 0.195%

so that the carbon equivalent Ceq defined by the equation (1) below satisfies a value of 0.4 to less than 0.58, and the total x of multiplying factors including that for B according to Grossmann satisfies a value of 1.2 to less than 1.7, the balance being substantially composed of Fe, and the steel also has a structure in which the ferrite grain diameter df corresponding to a circle is 1.1 μm to less than 12 μm, ~~and~~ the ferrite volume fraction Vf is 30% to less than 98% and the fatigue endurance after quenching is 450 MPa or more:

$$Ceq = C + Mn/6 + Si/24 + Ni/40 + Cr/5 + Mo/4 + V/14 \quad (1)$$

wherein C, Mn, Si, Ni, Cr, Mo, and V represent the contents (% by mass) of the respective elements.

2. (Original) The steel for structural parts of automobiles according to claim 1, further comprising, by mass, at least one selected from 0.001% to 0.175% of Cu, 0.001% to 0.145% of Ni, and 0.001% to 0.029% of V in addition to the above composition.

3. (Original) The steel for structural parts of automobiles according to claim 1 or 2, further comprising 0.0001% to 0.0029% by mass of Ca in addition to the above composition.

4.-5. (Cancelled)

6. (Previously Presented) A steel composition containing, by mass, the following:

C: about 0.18 to about 0.29%

Si: about 0.06 to about 0.45%

Mn: about 0.91 to about 1.85%

P: about 0.019% or less

S: about 0.0029% or less

Sol. Al: about 0.015 to about 0.075%

N: about 0.0049% or less

O: about 0.0049% or less

B: about 0.0001 to about 0.0029%

Nb: about 0.001 to about 0.019%

Ti: about 0.001 to about 0.029%

Cr: about 0.001 to about 0.195%

Mo: about 0.001 to about 0.195%

so that the carbon equivalent Ceq defined by the equation (1) below satisfies a value of about 0.4 to less than about 0.58, and the total x of multiplying factors including that for B according to Grossmann satisfies a value of about 1.2 to less than about 1.7, the balance being substantially composed of Fe, and the steel also has a structure in which the ferrite grain diameter df corresponding to a circle is about 1.1 μm to less than about 12 μm, and the ferrite volume fraction Vf is about 30% to less than about 98% and the fatigue endurance after quenching is 450 MPa or more:

$$Ceq = C + Mn/6 + Si/24 + Ni/40 + Cr/5 + Mo/4 + V/14 \quad (1)$$

wherein C, Mn, Si, Ni, Cr, Mo, and V represent the contents (% by mass) of the respective elements.

7. (Previously Presented) The steel according to claim 6, further comprising, by mass, at least one selected from about 0.001% to about 0.175% of Cu, about 0.001% to about 0.145% of Ni, and about 0.001% to about 0.029% of V in addition to the above composition.

8. (Previously Presented) The steel according to claim 6 or 7, further comprising about 0.0001% to about 0.0029% by mass of Ca.

9.-10. (Cancelled)

11. (Currently Amended) A steel for structural parts of automobiles having excellent formability, fatigue endurance after quenching, low temperature toughness, and resistance for hydrogen embrittlement, wherein the steel has a composition containing, by mass, the following:

C: 0.18 to 0.29%

Si: 0.06 to 0.45%

Mn: 0.91 to 1.85%

P: 0.019% or less

S: 0.0029% or less

Sol. Al: 0.015 to 0.075%

N: 0.0049% or less

O: 0.0049% or less

B: 0.0001 to 0.0029%

Nb: 0.001 to 0.019%

Ti: 0.001 to 0.029%

Cr: 0.001 to 0.195%

Mo: 0.001 to 0.195%

so that the carbon equivalent Ceq defined by the equation (1) below satisfies a value of 0.4 to less than 0.58, and the total x of multiplying factors including that for B according to Grossmann satisfies a value of 1.2 to less than 1.7, the balance being substantially composed of Fe, and the steel also has a structure in which the ferrite grain diameter df corresponding to a circle is 1.1 μm to ~~less than 10~~8.6 μm, and the ferrite volume fraction Vf is 30% to less than 98%:

$$Ceq = C + Mn/6 + Si/24 + Ni/40 + Cr/5 + Mo/4 + V/14 \quad (1)$$

wherein C, Mn, Si, Ni, Cr, Mo, and V represent the contents (% by mass) of the respective elements.

12. (Previously Presented) The steel for structural parts of automobiles according to claim 11, further comprising, by mass, at least one selected from 0.001% to 0.175% of Cu, 0.001% to 0.145% of Ni, and 0.001% to 0.029% of V in addition to the above composition.

13. (Previously Presented) The steel for structural parts of automobiles according to claim 11 or 12, further comprising 0.0001% to 0.0029% by mass of Ca in addition to the above composition.

14. (Currently Amended) A steel composition containing, by mass, the following:

C: about 0.18 to about 0.29%

Si: about 0.06 to about 0.45%

Mn: about 0.91 to about 1.85%

P: about 0.019% or less

S: about 0.0029% or less

Sol. Al: about 0.015 to about 0.075%

N: about 0.0049% or less

O: about 0.0049% or less

B: about 0.0001 to about 0.0029%

Nb: about 0.001 to about 0.019%

Ti: about 0.001 to about 0.029%

Cr: about 0.001 to about 0.195%

Mo: about 0.001 to about 0.195%

so that the carbon equivalent Ceq defined by the equation (1) below satisfies a value of about 0.4 to less than about 0.58, and the total x of multiplying factors including that for B according to Grossmann satisfies a value of about 1.2 to less than about 1.7, the balance being substantially composed of Fe, and the steel also has a structure in which the ferrite grain diameter df corresponding to a circle is about 1.1 μm to ~~less than about 10~~8.6 μm, and the ferrite volume fraction Vf is about 30% to less than about 98%:

$$Ceq = C + Mn/6 + Si/24 + Ni/40 + Cr/5 + Mo/4 + V/14 \quad (1)$$

wherein C, Mn, Si, Ni, Cr, Mo, and V represent the contents (% by mass) of the respective elements.

15. (Previously Presented) The steel according to claim 14, further comprising, by mass, at least one selected from about 0.001% to about 0.175% of Cu, about 0.001% to about 0.145% of Ni, and about 0.001% to about 0.029% of V in addition to the above composition.

16. (Previously Presented) The steel according to claim 14 or 15, further comprising about 0.0001% to about 0.0029% by mass of Ca.